

CLAIMS

What is claimed is:

1. A method of inhibiting an inflammatory response in a tissue comprising leptin receptor positive cells, comprising administering to the tissue an agent that
5 inhibits the signaling activity of the leptin receptor that mediates intestinal inflammation, thereby inhibiting the inflammatory response in the tissue.
2. The method of Claim 1, wherein administering the agent comprises contacting the leptin receptor positive cells with the agent.
3. The method of Claim 1, wherein the agent inhibits leptin receptor signaling, and
10 wherein the agent is selected from the group consisting of: leptin receptor inhibitors, leptin derivatives, leptin analogs, and antibodies that bind to the leptin receptor.
4. The method of Claim 1, wherein the agent is a competitive inhibitor binding of leptin to the leptin receptor.
- 15 5. The method of Claim 1, wherein the agent is a soluble isoform of the leptin receptor or a fragment thereof that retains the ability to bind to leptin.
6. The method of Claim 1, wherein the agent inhibits binding to the leptin receptor, and wherein the agent is selected from the group consisting of: leptin antibodies, leptin receptor antagonists, leptin analogs and leptin derivatives.
- 20 7. The method of Claim 6, wherein the leptin receptor antagonist is a peptide or peptide analog.

8. The method of Claim 6, wherein the agent is an inhibitor of the leptin receptor binding activity of leptin.
9. The method of Claim 1, where the inflammation is mediated by an autoimmune response, a parasite, a bacterium, a virus or a toxin.
- 5 10. The method of Claim 9, where the toxin is produced by *Clostridium difficile*.
11. The method of Claim 1, wherein the inflammation is of the small or large intestine.
12. A method for treating leptin-mediated intestinal inflammation in a mammal, comprising administering to a mammal an effective amount of an agent that
10 inhibits the signaling activity of the leptin receptor that mediates intestinal inflammation, thereby inhibiting the inflammatory response in the tissue.
13. The method of Claim 12, wherein administering the agent comprises contacting the leptin receptor positive cells with the agent.
14. The method of Claim 12, wherein the agent inhibits leptin receptor signaling,
15 and wherein the agent is selected from the group consisting of: leptin receptor inhibitors, leptin derivatives, leptin analogs, and antibodies that bind to the leptin receptor.
15. The method of Claim 12, wherein the agent is a competitive inhibitor binding of leptin to the leptin receptor.
- 20 16. The method of Claim 12, wherein the agent is a soluble isoform of the leptin receptor or a fragment thereof that retains the ability to bind to leptin.

17. The method of Claim 12, wherein the agent inhibits binding to the leptin receptor, and wherein the agent is selected from the group consisting of: leptin antibodies, leptin receptor antagonists, leptin analogs and leptin derivatives.
18. The method of Claim 17, wherein the leptin receptor antagonist is a peptide or peptide analog.
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19. The method of Claim 17, wherein the agent is an inhibitor of the leptin receptor binding activity of leptin.
20. The method of Claim 12, where the inflammation is mediated by an autoimmune response, a parasite, a bacterium, a virus or a toxin.
- 10 21. The method of Claim 20, where the toxin is produced by *Clostridium difficile*.
22. The method of Claim 12, wherein the inflammation is of the small or large intestine.
23. A composition for treating intestinal inflammation in a mammal, comprising one or more agents selected from the group consisting of: leptin antibodies, leptin agonists, leptin antagonists, non-biologically active leptin analogs, leptin
15 receptor agonists or leptin receptor antagonists and a pharmaceutically acceptable carrier.
24. The composition of Claim 23, wherein the agent inhibits leptin receptor signaling, and wherein the agent is selected from the group consisting of: leptin
20 receptor inhibitors, leptin derivatives, leptin analogs, and antibodies that bind to the leptin receptor.

25. The composition of Claim 23, wherein the agent is a competitive inhibitor binding of leptin to the leptin receptor.
26. The composition of Claim 23, wherein the agent is a soluble isoform of the leptin receptor or a fragment thereof that retains the ability to bind to leptin.
- 5 27. The composition of Claim 1, wherein the agent inhibits binding to the leptin receptor, and wherein the agent is selected from the group consisting of: leptin antibodies, leptin receptor antagonists, leptin analogs and leptin derivatives.
28. The composition of Claim 27, wherein the leptin receptor antagonist is a peptide or peptide analog.
- 10 29. The composition of Claim 27, wherein the agent is an inhibitor of the leptin receptor binding activity of leptin.
30. Use of an inhibitor of leptin or a leptin receptor for the manufacture of a medicament for the treatment of an inflammatory disease or condition.
- 15 31. The method of Claim 1, Claim 12, Claim 23 or Claim 30, where the inflammation is associated with an autoimmune response, a parasitic infection, inflammatory bowel disease, Crohn's disease, ulcerative colitis, acute enterocolitis or chronic enterocolitis.